PLEASE AMEND THE SPECIFICATION AS INDICATED BELOW:

Please amend Paragraph [0009] as follows:

Even with water flowing through the sprinkler system, however, the sprinkler heads may wear out faster with continued operation at high fluid output rates than at lower output rates. In particular, certain types of rotary irrigation sprinkler systems provide the capability to adjust the output rates and/or change between several different nozzles for applying a selected flow rate and/or distribution profile of the irrigation fluid. Changes in the output flow rate caused by changing the nozzles also affect the flow rate driving the turbine rotor which rotates the sprinkler head. This is [[the]] generally the case with most known rotary sprinklers, including the system disclosed in Hunter and discussed above. When the irrigation fluid flowing through the sprinkler system disclosed in Hunter is water, the rate of rotation of the turbine assembly is directly determined by the flow rate of water through the system, and would therefore vary through the entire operation range of the sprinkler system.

Please amend Paragraph [0028] as follows:

Rother 22 has a plurality of blades 24 angularly formed around its perimeter (seen more clearly in Fig. 6), and is affixed to an output shaft 28, which in turn is connected to a gear train inside a gear [[cage]] box 30. When the rotor 22 is driven as described below, the gear train in [[the]] gear [[cage]] box 30 is driven to ultimately cause a sprinkler head (not shown) to rotate in one direction or to oscillate through a predetermined arcuate range. Irrigation fluid is output through the sprinkler head while the sprinkler head is rotating and/or oscillating, to distribute the fluid across a predetermined range and trajectory profile.

Please amend Paragraph [0029] as follows:

Rotor 22 is housed inside turbine housing 14, which includes an upper housing section 13 shaped substantially like a petri dish, a substantially bowl-shaped lower housing section 15 and an inlet tube 8. The upper housing section 13 is fitted over the lower housing section 15 like a cap, and the inlet tube 8 extends downwardly from a center opening in the lower housing section 15 having a diameter corresponding to the inner diameter of the inlet tube 8. Preferably, though not necessarily, the inlet tube 8 is integrally formed with the lower housing section 15. [[Inlet]] As shown in Fig. 7,

inlet tube 8 has a first exterior diameter along its upper portion 9, and a second exterior diameter which is smaller than the first exterior diameter along its bottom portion 11, for reasons which will be explained below. Due to the difference in exterior diameters of the upper portion 9 and the bottom portion 11, a shoulder 46 is formed around of the inlet tube 8 at the junction between the two portions. As can be seen in Figs. 3-5 and 7, the turbine housing 14 as defined by the upper housing section 13, the lower housing section 15 and the inlet tube 8 forms a structure which is cylindrically symmetrical about a central vertical axis and has a vertical cross section shaped like a hollow "T."

Please amend Paragraph [0032] as follows:

A flow control valve 36 is, in an exemplary embodiment of the invention, substantially Y-shaped in cross-section, and includes a planar bottom end ~~surface~~ 44, a curved fluid contact surface 45, and a sleeve 48. The bottom end ~~surface~~ 44 has a central opening formed therethrough having a diameter corresponding to the exterior diameter of the lower portion 11 of inlet tube 8. The outer diameter of bottom end ~~surface~~ 44 is somewhat larger than the exterior diameter of the upper portion of inlet tube 8. The flow control valve 36 widens from the outer diameter of the bottom end ~~surface~~ 44 to the diameter of the sleeve 48, which corresponds with the exterior diameter of the turbine housing 14 along the cylindrical wall formed by the upper housing section 13 and lower housing section 15. The fluid contact surface 45 is defined by this variable diameter section of the flow control valve 36 between the bottom end ~~surface~~ 44 and the sleeve 48.

Please amend Paragraph [0033] as follows:

The bottom portion 11 of the turbine inlet tube 8 is fitted through the opening 43 in the bottom end ~~surface~~ 44. A spring 42 is arranged inside flow control valve member 36 surrounding turbine inlet tube 8 between the bottom end ~~surface~~ 44 and the bottom surface of the lower housing section 15 of interior turbine housing 14. The spring 42 biases the bottom end ~~surface~~ 44 of flow control valve 36 to a position along the inlet tube 8 near the opening to the turbine inlet passage 12 at the bottom of the inlet tube 8.

Please amend Paragraph [0034] as follows:

As seen in Fig. 3, the turbine assembly 10 is positioned inside a riser housing 2 so that the turbine inlet passage 12 opens into the main flow passage 6 through riser housing 2. The position of the turbine assembly 10 and the gear [[cage]] box 30 inside the riser is fixed to prevent vertical movement of the turbine assembly 10 relative to the housing 2. An annular flange 32 is formed around the inner surface of housing 2, and defines a valve seat 34 around its inner circumference.

Please amend Paragraph [0037] as follows:

When the force of the irrigation fluid against the fluid contact surface 45 is sufficient to overcome the pre-compressed force of the spring 42, the flow control valve 36 is lifted off the valve seat 34 such that the bottom end ~~surface~~ 44 slides along the bottom portion 11 of the inlet tube 8, as illustrated in Fig. 4, to enable [[the]] a portion of the irrigation fluid flow to enter the flow bypass region 38 through the opening between the annular flange 32 and the flow control valve 36. Upon opening the flow control valve 36, any fluid flowing into the bypass region 38 does not enter the turbine flow path and does not contribute to driving the rotor 22. The portion of the fluid flow bypassing the turbine assembly recombines with the portion of flow passing through the turbine assembly after the latter exits the rotor chamber 20, whereby the entire flow continues to pass through the riser assembly and into the nozzle assembly, where the fluid is discharged through the nozzle(s) in the nozzle assembly.